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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,970	02/15/2002	Hideki Kobayashi	TSL1515DIV	2779

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EXAMINER
PENG, KUO LIANG

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/076,970	KOBAYASHI ET AL.	
	Examiner	Art Unit	
	Kuo-Liang Peng	1712	

-- The MAILING DATE of this communicati n appears on the c ver sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/11/03 Amendment* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. *09/489,417* .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The Applicants' amendment filed on July 11, 2003 was received. Claim 7 is amended. Claims 1-6 are deleted. Claim 13 is added.

2. The indicated allowability of claims 7-12 is withdrawn in view of the newly discovered reference(s) to Perry (US 6 043 388). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nye (US 6 365 141) in view of Perry (US 6 043 388).

Nye discloses a method of reacting a silyhydride-functional polysiloxane with a terminally unsaturated arylalkene such as styrene or 2-phenylpropene, etc. in the presence of a supported platinum catalyst to afford an aralylsiloxane having a structure of formula (I) wherein R^1 and R^{10} are aryalkyl groups such as, phenylethyl, phenylpropyl, 2-(1-naphthyl)ethyl, etc.; R^2, R^3, R^6, R^7, R^8 and R^9 can be C_1-C_6 alkyl; n is 0; and m can be 2 to 5 (col. 1 line 65 to col. 2, line 18, col. 2, line 58 to col. 3, line 5, col. 3, lines 28-45 and Example 1). The R^2, R^3, R^6, R^7, R^8 and R^9 and m can be exemplified as methyl group and 3, respectively, as indicated in Example 1.

Since Nye's aralylsiloxane reads on the limitation of Applicants' pentasiloxane, it should have the same physical properties such as refractive index, etc. claimed by Applicants.

The difference between Nye is the requirement of the specific method for preparing $HMe_2SiO(SiMe_2O)_3SiMe_2H$ or the use of a mixture comprising $(HMe_2SiO)(SiMe_2O)_3(SiMe_2H)$ and $HMe_2SiOSiMe_2H$.

Perry discloses a method of preparing a $(HR_2SiO)(SiR'_2O)_3(SiR_2H)$ by reacting HR_2Si-O-SiR_2H with $(R'_2SiO)_3$ in the presence of sulfonic acids, etc. The R and R' can be methyl. The mole ratio of HR_2Si-O-SiR_2H to $(R'_2SiO)_3$ can be 1:1, 2:1, etc. Note that the reaction product can be a mixture comprising $(HMe_2SiO)(SiMe_2O)_3(SiMe_2H)$ and $HMe_2SiOSiMe_2H$ (Examples). The motivation for using Perry's process is to afford the $HMe_2SiO(SiMe_2O)_3SiMe_2H$ or a mixture comprising $(HMe_2SiO)(SiMe_2O)_3(SiMe_2H)$ and $HMe_2SiOSiMe_2H$ in a simple, less expensive way. Most importantly, the process can be solventless (col. 1, lines 49-56, co. 2, lines 3-18 and 48-53 and Examples 1 and 2). In light of the aforementioned benefit, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Perry's method for making the $HMe_2SiO(SiMe_2O)_3SiMe_2H$ or the use of a mixture comprising $(HMe_2SiO)(SiMe_2O)_3(SiMe_2H)$ and $HMe_2SiOSiMe_2H$ for use in Nye's process.

6. Claims 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morehouse (US 3 839 384) in view of Akamatsu (US 5,300,669) and Perry (US 6 043 388).

Morehouse discloses a method for preparing a pentasiloxane having the formula

$$R(CH_3)_2SiO((CH_3)_2SiO)_3Si(CH_3)_2R$$

wherein R is 2-methylphenethyl group by reacting hydrosilylating $H(CH_3)_2SiO((CH_3)_2SiO)_3Si(CH_3)_2H$ with α-methylstyrene or styrene (col. 2, line 66 to col. 3, line 8, Example 10 and Table 1). Since Morehouse's pentasiloxane reads on the limitation of Applicants' pentasiloxane, it should have the refractive index claimed by Applicants.

The difference between Morehouse and present invention is the requirement of a) the hydrosilylation being carried out in the presence of a supported platinum catalyst, and b) the specific method for preparing $HMe_2SiO(SiMe_2O)_3SiMe_2H$ or the use of a mixture comprising $(HMe_2SiO)(SiMe_2O)_3(SiMe_2H)$ and $HMe_2SiOSiMe_2H$.

With respect to a), Morehouse's hydrosilylation catalyst is $H_2PtCl_6 \cdot H_2O$ (i.e., chloroplatinic acid)(col. 11, line 44). Furthermore, Akamatsu discloses a process of hydrosilylating 1,1,3,3-tetramethyldisiloxane with α-methylstyrene in the presence of chloroplatinic acid, platinum-on-inorganic powder (i.e., supported) catalyst (col. 2, lines 57-58 and col. 3, line 1). In other words, Akamatsu teaches the interchangeability between chloroplatinic acid and platinum-on-inorganic powder as a hydrosilylation catalyst. The motivation of using the platinum-on-inorganic powder as a catalyst in the hydrosilylation reaction is to afford a silicone oil having arylalkyl group (col. 2, lines 29-30). In light of the above discussion, it would have been obvious to one of ordinary skill in the art at the time of invention to use platinum-on-inorganic powder as a hydrosilylation catalyst in the process of Morehouse's.

With respect to b), Perry discloses a method of preparing a $(HR_2SiO)(SiR'_2O)_3(SiR_2H)$ by reacting $HR_2Si\text{-}O\text{-}SiR_2H$ with $(R'_2SiO)_3$ in the presence of sulfonic acids, etc. The R and R' can be methyl. The mole ratio of $HR_2Si\text{-}O\text{-}SiR_2H$ to $(R'_2SiO)_3$ can be 1:1, 2:1, etc. Note that the

reaction product can be a mixture comprising $(HMe_2SiO)(SiMe_2O)_3(SiMe_2H)$ and $HMe_2SiOSiMe_2H$ (Examples). The motivation for using Perry's process is to afford the $HMe_2SiO(SiMe_2O)_3SiMe_2H$ or a mixture comprising $(HMe_2SiO)(SiMe_2O)_3(SiMe_2H)$ and $HMe_2SiOSiMe_2H$ in a simple, less expensive way. Most importantly, the process can be solventless (col. 1, lines 49-56, co. 2, lines 3-18 and 48-53 and Examples 1 and 2). In light of the aforementioned benefit, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Perry's method for making the $HMe_2SiO(SiMe_2O)_3SiMe_2H$ or the use of a mixture comprising $(HMe_2SiO)(SiMe_2O)_3(SiMe_2H)$ and $HMe_2SiOSiMe_2H$ for use in Nye's process.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang Peng whose telephone number is (703) 306-5550. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson, can be reached on (703) 308-2340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

klp
September 12, 2003

Kuo-Liang Peng
Art Unit 1712